

AMENDMENTS TO THE CLAIMS

Please amend the claims as shown below. A complete listing of the claims, including their current status, is set forth below.

1-28. (Canceled)

29. (Previously presented) An isolated polynucleotide, wherein said polynucleotide comprises a nucleic acid sequence encoding a G protein-coupled receptor comprising the amino acid sequence of SEQ ID NO: 16.

30-40. (Canceled)

41. (Currently amended) An isolated polynucleotide according to claim 29 wherein the G protein-coupled receptor having the amino acid sequence of SEQ ID NO: 16 exhibits expression in thalamus and increases an intracellular level of IP₃ **when stimulated**.

42. (Previously presented) An isolated polynucleotide according to claim 29, wherein the nucleic acid sequence is SEQ ID NO: 15.

43. (Currently amended) An isolated polynucleotide according to claim 42 wherein the G protein-coupled receptor having the amino acid sequence of SEQ ID NO: 16 exhibits expression in thalamus and increases an intracellular level of IP₃ **when stimulated**.

44. (Previously presented) An isolated polynucleotide, wherein said polynucleotide comprises a nucleic acid sequence encoding an endogenous human G protein-coupled receptor, said nucleic acid sequence amplifiable by a process comprising performing polymerase chain reaction (PCR) on a human cDNA sample using a specific primer that consists of the nucleotide

sequence set forth in SEQ ED N0:41 and a specific primer that consists of the nucleotide sequence set forth in SEQ IDNO:42, wherein the process is RT-PCR.

45. (Currently amended) An isolated polynucleotide according to claim 44, wherein the endogenous G protein-coupled receptor exhibits expression in thalamus and increases an intracellular level of IP₃ **when stimulated**.

46. (Previously presented) A vector comprising a polynucleotide according to any one of claims 29, or 41 to 45.

47. (Previously presented) A vector according to claim 46, wherein said vector is an expression vector.

48. (Previously presented) A host cell comprising an expression vector according to claim 47.

49. (Previously presented) A host cell according to claim 48, wherein the host cell is mammalian.

50. (Previously presented) A mammalian host cell according to claim 49, wherein the mammalian host cell is selected from the group consisting of 293 cell, 293T cell, and COS-7 cell.

51. (Previously presented) A host cell according to claim 48, wherein the host cell is a melanophore cell.

52. (Previously presented) A process for making a recombinant host cell comprising the steps of:

- (a) transfecting an expression vector according to claim 47 into a suitable host cell;
- and
- (b) culturing the host cell under conditions which allow expression of a G protein-coupled receptor from the expression vector.

53. (Previously presented) A process according to claim 52, wherein the host cell is mammalian.

54. (Previously presented) A process according to claim 53, wherein the mammalian host cell is selected from the group consisting of 293 cell, 293T cell, and COS-7 cell.

55. (Previously presented) A process according to claim 52, wherein the host cell is a melanophore cell.

56. (Previously presented) An isolated membrane of a recombinant host cell according to claim 52, wherein the isolated membrane comprises the G protein-coupled receptor.

57. (Previously presented) An isolated polynucleotide according to claim 44, wherein human cDNA is human brain cDNA.

58. (Previously presented) An isolated polynucleotide according to claim 44, wherein the PCR comprises:

- (a) a first step having a duration of 2 minutes carried out at 95°C;
- (b) a second step having a duration of 20 seconds carried out at 95°C;
- (c) a third step having a duration of 20 seconds carried out at 60°C;
- (d) a fourth step having a duration of 1 minute 30 seconds carried out at 72°C;
- (e) a fifth step having a duration of 5 minutes carried out at 72°C;

wherein steps two to four are repeated 45 times.

59. (Previously presented) An isolated polynucleotide according to claim 44, wherein the nucleic acid sequence is SEQ ID NO:15.

60. (Previously presented) An isolated polynucleotide according to claim 44, wherein the endogenous G protein-coupled receptor is expressed in thalamus.

61. (Currently amended) An isolated polynucleotide according to claim 44, wherein the endogenous G protein-coupled receptor increases a level of intracellular IP₃ **when stimulated.**